

Work Authorization No. 16 –Les Lacs Pond Water Quality Monitoring Program and Well Pump Operation

Attachment 1: Scope of Services

PROJECT DESCRIPTION

The scope of work to be performed under this Work Authorization shall generally consist of environmental services necessary to conduct a limited water quality assessments of the Les Lacs Pond, a water quality start up program (20 day), and a water quality periodic monitoring program (90 day). A water quality assessment has been completed and residence complaints regarding odors and appearance of the pond during summer conditions have been addressed. The purpose of the program will involve monitoring water quality characteristics and recommended corrective actions for operating the well and improving conditions at the pond.

CONSULTANT shall provide the following services in accordance with recognized industry standards which are similar in size, scope and budget to the project.

SCOPE OF SERVICES

6.1 Startup Services Water Quality Program

- 6.1.1.** Halff shall Set up the communication process to get all entities involved such as Owner (Staff and Operators), Engineer, and Contractors (well pump supplier, electrical, and well piping, transfer piping) before startup of facility. Prepare procedures for disciplines, roles in startup and review with all parties involved in the project.
- 6.1.2** Halff shall coordinate and conduct training for staff and operators on systems before startup.
- 6.1.3** Halff shall set up startup meeting for monitoring well flow with in pond.
- 6.1.4** Halff shall develop testing program for water quality analysis for staff.
- 6.1.5** Write laboratory testing protocol sections.
- 6.1.6** Water quality sampling and monitoring is weather and precipitation dependent. Monitoring program should be scheduled based on climate that are conducive to water quality likely becoming undesirable, such as high heat, and low runoff conditions. The program would be mutually agreed upon by the engineer and the Client.

- 6.1.7** Assist staff in preparation of testing program protocol and water quality initial recommendations. Prepare recommended water quality measurement testing program and operations. The water quality parameters measured onsite are initially intended to be Temperature, pH, and clarity. Laboratory testing should be initially planned for 5 day BOD, DO, TDS, Total Nitrogen, Chlorophyll-a, and Total Phosphorus. Sampling and testing water program will be a Town of Addison program with municipal funding sources. Frequency of testing will initially be at two (2) week intervals. Results of testing shall be prepared in a written format by Town of Addison staff and supplied to engineer. **Water quality testing costs will be the responsibility of the Town.**
- 6.1.8** Prepare draft procedures for operators and review with all parties involved in the project.
- 6.1.9** In conjunction with Addison staff monitor staff testing of water quality for 20 day period, twice a week.
- 6.1.10** Review staffs operating logs for system monitoring to minimize run times.
- 6.1.11** In conjunction with Addison staff assess startup and testing procedures in water quality program.
- 6.1.12** Halff shall tabulate Analysis of 20 day testing results.
- 6.1.13** Project future water quality testing program requirements.
- 6.2.14** Halff shall coordinate with Staff operators proper system monitoring and maintenance to maximize system downtime and minimize run times.
- 6.1.15.** Halff shall meet with Staff Operations for feedback on 20 day testing in four separate meetings.
- 6.1.16.** Incorporate comments into final draft of report on water quality testing program.
- 6.1.17.** Presentation of tabulation of final results to staff.

6.2 Water Quality Monitoring Program.

- 6.2.1.** Following the 20 day startup phase Halff shall Coordinate with Staff Operators from start up phase and assist the staffs collection of water quality data collection and proper documentation of all relevant data for 90 day period.

- 6.2.2** Water quality sampling and monitoring is weather and precipitation dependent. Monitoring program should be scheduled based on climate that are conducive to water quality likely becoming undesirable, such as high heat, and low runoff conditions. The program would be mutually agreed upon by the engineer and the Client.
- 6.2.3** Halff shall write up process for onsite staff administered water quality testing program for staff administered protocol sections.
- 6.2.4.** Halff shall write up the laboratory testing schedule and protocol sections. **Water quality testing costs will be the responsibility of the Town.** Coordinate Town Testing personnel for monitoring testing schedules.
- 6.2.5** Coordinate with Staff operators proper system monitoring and maintenance to maximize system downtime and minimize run times.
- 6.2.6** Review staffs operating logs for system monitoring and develop program to maximize system downtime.
- 6.2.7** Review staffs operating logs for system monitoring to develop program for systems minimizing run times.
- 6.2.8** Bimonthly meeting with Owner for three (3) months after system acceptance to review system operations for a total of 6 meetings.
- 6.2.9** Based on results of testing program Halff shall develop a written recommended program for running well water to freshen the existing pond water. The method would be based around an as needed methodology of running the well versus changes of pond water quality.
- 6.2.10.** Halff shall write introduction, summary. And executive summary.
- 6.2.11** Presentation of write up to staff of final draft

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Attachment 2: Fee Schedule

No.	Phase & Task Description	Task Fee	Phase Total
6.1	<u>Startup Services Water Quality Program</u>	\$58,000	
6.2	<u>Water Quality Monitoring Program.</u>	\$35,000	
Work Authorization #16 Total Fee			\$93,000

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Attachment 3: **Project Schedule**

No.	Activity	Duration (days)	Anticipated Completion Date
6.1	<u>Startup Services Water Quality Program</u>	30	
6.2	<u>Water Quality Monitoring Program.</u>	100	

*note that program is based on program being run during water quality conditions of medium to poor conditions.